

THE VEGETATION OF NAGZIRA WILDLIFE SANCTUARY AND ITS ENVIRONS (MAHARASHTRA STATE)¹

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The paper gives an account of the vegetation of Nagzira wildlife sanctuary and its environs in Maharashtra State. Location, geology and climate is briefly discussed. 174 species comprising of about 47 families and 142 genera are listed (giving upto-date nomenclature and uses and local names).

INTRODUCTION

Nagzira wildlife sanctuary lies in Tirora range of Bhandara forest division in Bhandara district. The forests of Nagzira are well preserved and there are two perennial water reservoirs, one at Nagzira and the other at Thadezari. These two water reservoirs assure perennial water supply to wildlife in the area. Thousands of visitors visit this area every year. But so far no published account about the vegetation of the area is known. A passing reference to a very few plants from Bhandara district is made by Haines (1916)³. In the present paper the vegetation of Nagzira wildlife sanctuary and its environs is briefly discussed. A list of 174 species comprising of about 47 families and 142 genera is given (with upto-date nomenclature and uses local names if any).

PHYSICAL FEATURES

Situation and area :

The Nagzira wildlife sanctuary lies in Tirora range of Bhandara Forest Division in

Bhandara district. The area is approachable by the Sakoli-Nagzira forest road branching off from the Great Eastern Highway at Sakoli about 100 kms from Nagpur and the Murdoli-Nagzira forest road about 25 kms from Gondia. The forests of the area extend over 131.75 sq. km.

Climate :

The climate of the area is quite pleasant during the greater part of the year. Only a little span of summer is very hot. The temperature varies between 6.5°C during January to 45°C during May. The average annual rainfall varies between 1,100 mm and 1,500 mm.

Vegetation :

The vegetation of the area is of mixed deciduous type. *Anogeissus latifolia* (Roxb.) ex DC. Bedd.; *Bauhinia racemosa* Lamk., *Bredelia retusa* (L.) Spreng; *Butea monosperma* (Lamk.) Taub; *Kydia calycina* Roxb.; *Mallostus philippensis* (Lamk.) Muell.-Arg.; *Sterculia urens* Roxb. form the top canopy in the forests.

The second layer of the forests is comprised of a mixture of a number of small trees and shrubs like *Clerodendrum serratum* (L.) Moon; *Diospyros melanoxylon* Roxb.; *Gardenia latifolia* Ait.; *Holarrhena antidysenterica* (Roth) A. DC.; *Lagerstroemia parviflora* Roxb. etc. The area is usually comprised of

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² Botanical Survey of India, Pune.

³ Haines, H. H. (1916): Descriptive list of trees, shrubs and economic herbs of The Southern Circle, Central Provinces, Allahabad.

the lianas and climbers like *Acacia pennata* (L.) Willd.; *Aspidopteris cordata* (Heyne) A. Juss.; *Cocculus hirsutus* (L.) Diels; *Dioscorea bulbifera* L.; *D. pentaphylla* L.; *Hemidesmus indicus* (L.) R. Br.; *Ichnocarpus frutescens* (L.) R. Br.; *Smilax zeylanica* L. etc.

The ground flora is quite rich after the monsoon. The herbs, grasses, and a few undershrubs like *Abutilon indicum* (L.) Sweet; *Achyranthes aspera* L.; *Alternanthera sessilis* (L.) R. Br. ex DC.; *Alysicarpus vaginalis* (L.) DC.; *Amaranthus spinosus* L.; *Ammania baccifera* L.; *Andrographis paniculata* (Burm.) Wall. ex Nees, *Buchnera hispida* Buch.-Ham.; *Canscora diffusa* R. Br.; *Cassia absus* L.; *Commelina benghalensis* L.; *Corchorus aestuans* L.; *Crotalaria hirta* Willd.; *C. linifolia* L. f.; *Cyanotis cristata* (L.) D. Don; *Cyperus iria* L.; *Dactyloctenium aegyptium* (L.) P. Beauv.; *Dichanthium annulatum* (Forsk.) Stapf; *Dipteracanthus prostratus* (Poir.) Nees, *Eclipta prostrata* (L.) L.; *Elephantopus scaber* L.; *Euphorbia hirta* L.; *E. prostrata* L.; *Heteropogon contortus* (L.) P. Beauv.; *Hibiscus lampas* Cav.; *Hybanthus enneaspermus* (L.) F. Muell.; *Melochia corchorifolia* L.; *Merremia emarginata* (Burm. f.) Hall. f.; *Peristrophe bicalyculata* (Retz.) Nees; *Plumbago zeylanica* L.; *Sida acuta* Burm. f.; *Scoparia dulcis* L.; *Triumfetta rhomboidea* Jacq.; *Vernonia cinerea* (L.) Less etc. are frequently met with.

PLANTS RECORDED FROM SPECIAL HABITATS

1. The trees and shrubs recorded from the thick forest areas:

Anogeissus latifolia (Roxb.) ex DC. Bedd.; *Acacia chundra* (Roxb.) Willd.; *Bauhinia racemosa* Lamk.; *Bridelia retusa* (L.) Spreng; *Buchanania lanzan* Spreng; *Cassia fistula* L.; *Cleistanthus collinus* Benth.; *Diospyros melanoxylon* Roxb.; *Emblica officinalis* Gaertn.;

Eriolaena hookeriana Wt. & Arn.; *Grewia tiliaefolia* Vahl.; *Gardenia latifolia* Ait.; *Helicteres isora* L.; *Holarrhena antidysenterica* (Roth) A. DC.; *Kydia calycina* Roxb.; *Lagerstroemia parviflora* Roxb.; *Mallotus philippensis* (Lamk.) Muell.-Arg.; *Mitragyna parvifolia* (Roxb.) Korth; *Semecarpus anacardium* L. f.; *Sterculia urens* Roxb.; *Stereospermum suaveolens* (Roxb.) DC.; *Tectona grandis* L.; *Terminalia tomentosa* Wt. & Arn.; *Woodfordia fruticosa* (L.) Kurz.; *Xeromphis uliginosa* (Retz.) Mahesh. etc.

2. Plant species recorded as undergrowth of the forests along the roads, paths and wastelands:

Achyranthes aspera L.; *Alysicarpus vaginalis* (L.) DC.; *Amaranthus spinosus* L.; *Cassia absus* L.; *Corchorus aestuans* L.; *Crotalaria hirta* Willd.; *C. linifolia* L. f.; *Cyperus tenuispica* Steud.; *Datura innoxia* Mill.; *Desmodium triflorum* (L.) DC.; *Elephantopus scaber* L.; *Eragrostis uniolooides* (Retz.) Nees; *Eriocaulon diana* Fyson.; *Heliotropium ovalifolium* Forsk.; *Hemigraphis latebrosa* (Roth) Nees, *Heteropogon contortus* (L.) P. Beauv.; *Hybanthus enneaspermus* (L.) F. Muell.; *Leonotis nepetifolia* (L.) R. Br.; *Leucas biflora* R. Br., *Melochia corchorifolia* L.; *Rhynchosia minima* DC.; *Rungia pectinata* (L.) Nees, *Sida acuta* Burm. f., *Sida cordata* (Burm. f.) Borss.; *Tridax procumbens* L.; *Triumfetta rhomboidea* Lamk.; *T. rotundifolia* Lamk.; *Uraria picta* (Jacq.) Desv. ex DC.; *Urena lobata* L.; *Vernonia cinerea* (L.) Less.; *Vicoa indica* (Willd.) DC. etc.

3. Plant species recorded along the degraded forests and scrub jungle:

Abrus precatorius L.; *Abutilon indicum* (L.) Sweet; *Alternanthera sessilis* (L.) R. Br. ex DC.; *Andrographis paniculata* (Burm.) Wall. ex DC.; *Buchnera hispida* Buch.—Ham.; *Canavalia ensiformis* DC.; *Clerodendrum serratum* (L.) Moon; *Cocculus hirsutus* (L.)

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Diels; *Coldenia procumbens* L.; *Corchorus aestuans* L.; *Desmodium triflorum* (L.) DC.; *Eclipta prostrata* (L.) L.; *Eragrostis tenella* (L.) P. Beauv.; *Grewia hirsuta* Vahl, *Hibiscus lampas* Cav.; *Helicteres isora* L.; *Paspalum scrobiculatum* L.; *Phyllanthus urinaria* L.; *Plumbago zeylanica* L.; *Rhynchosia minima* DC.; *Sida cordata* (Burm. f.) Borss; *Urena lobata* L. etc.

4. *Plant species recorded from water courses, ponds & marshy places:*

Ammannia baccifera L.; *A. multiflora* Roxb.; *Commelina benghalensis* L.; *Cyanotis cristata* (L.) D. Don, *Cyperus iria* L.; *Dactyloctenium aegyptium* (L.) P. Beauv.; *Echinochloa coloum* (L.) Link., *Eclipta prostrata* (L.) L.; *Hygrophila auriculata* (Sch.) Heine, *Ipomoea aquatica* Forsk.; *Limnophila indica* (L.) Druce, *Ludwigia octovalis* (Jacq.) Raven; *Melochia corchorifolia* L.; *Merremia emarginata* (Burm. f.) Hall. f.; *Polygonum barbatum* L. var. *gracile* (Dans.) Steward; *P. glabrum* Willd.; *P. plebeium* R. Br.; *Utricularia stellaris* L. etc.

ENUMERATION

In the following enumeration of the plant species, the nomenclature has been brought up to date. Only the original reference has been cited. Local names if any follow the citation in inverted commas. Brief notes along with uses if any are provided following the collection (field) numbers, which are of S. K. Malhotra, senior author and are deposited in the herbarium of the Botanical Survey of India, Poona. (BSI).

MENISPERMACEAE

Cissampelos pariera L. Sp. Pl. 1031, 1753 var. *hirsuta* (DC.) Forman in Kew Bull. 22 : 356. 1968. 'Paharval'. A climbing shrub.

Decoction of the roots and leaves used as an antiseptic. 151131.

Cocculus hirsutus (L.) Diels. in Engl. Pflanzenr. 46: 236. 1910. 'Vasauvel'. A straggling herb, frequent in the forests. Roots are used as a laxative. 145102.

VIOLACEAE

Hybanthus enneaspermus (L.) F. Muell. Fragm. Phyt. Austr. 10: 81. 1876. 'Rattapurpurus'. Frequent weed in moist habitats. Plant is used as a tonic. 144847.

MALVACEAE

Abutilon indicum (L.) Sweet Hort. Brit. 54. 1826. Herb or undershrub. Flowers yellow. Decoction of the leaves is taken to cure bronchitis. 151063.

Gossypium barbadense L. Sp. Pl. 693. 1753; 'Kapus'. Shrub. Flowers pale white. Oil obtained from the seeds is edible. 145082.

Hibiscus lampas Cav. Diss. 3 : 154. t. 56, f. 2. 1787. 'Ran-bhendi'. Shrub, frequent in the forests. Stem fibre is used for ropes. 144615, 144691.

H. rosa-sinensis L. Sp. Pl. 694. 1753; Shrub, occurring frequently. Flowers are considered useful for making dyes. 145128.

Kydia calycina Roxb. Pl. Cor. 3: 12. t. 215. 1811. 'Potremarra'. Frequent tree. Flowers light pink. Wood is used as a timber. 151107.

Sida acuta Burman, Fl. Ind. 147. 1968. Common herb. Decoction of the roots is used in mild cases of debility. 151096, 151175.

S. cordata (Burm. f.) Borss. Blumea 14: 182. 1966. Herb, common in open forests. Leaves are used as vegetable. 145149, 151133.

Urena lobata L. Sp. Pl. 692. 1753. Frequent herb. Flowers light pink. Stem fibre is used for ropes. 144637, 145094, 145151.

STERCULIACEAE

Eriolaena hookeriana W. & A. Prodr, 1 : 70, 1834. '*Kungai*'. Tree, frequent in dense forests. Wood is used as a timber. 144642, 145132, 151130.

Helicteres isora L. Sp. Pl. 963, 1753. '*Murad-phalli*'. Shrub, frequent in dense forests. Pods are fried, mixed with milk and given to children to kill intestinal germs. 145156, 151159.

Melochia corchorifolia L. Sp. Pl. 675, 1753. Common herb. Flowers light yellow. Leaves are used as a pot herb. 151099.

Sterculia urens Roxb. Pl. Cor. 1: 25, t. 24. 1795. '*Kurlu, Karu*'. Tree, frequent in dense forests. Bark yields a fibre which is used for making ropes. 151166.

TILIACEAE

Corchorus aestuans L. Syst. 1079. 1759. (non Forsk.). Herb, common in the waste lands. Seeds are used in stomach ache. 151123.

Grewia hirsuta Vahl Symb. 1: 34. 1790. '*Jiblikichetu*'. Shrub, frequent in the forests. Bark is used to check dysentery. 144663.

G. tiliaefolia Vahl, Symb. 1: 35. 1790. '*Dhaman*'. A small erect tree, frequent in the dense forests. Fruits are edible. 144666.

Triumfetta rhomboidea Jacq. Enum. Pl. Carib. 22. 1760. '*Anduli*'. Herb or undershrub, common in the open forests. Bark is used to check diarrhoea. 145077.

T. rotundifolia Lamk. Encycl. 3: 421. 1792. '*Mendurli*'. Herb or undershrub, common in the open forests. The plant is used as a demulcent. 145148, 151121.

MALPIGHIACEAE

Aspidopteris cordata (Wall.) A. Juss. Ann. Sci. Nat. Bot. ser. 2, 13: 267. 1840. Scandent shrub, frequent in the dense forests. 144661.

OXALIDACEAE

Biophytum sensitivum (L.) DC., Prodr. 1: 690. 1824. Herb. Flowers yellow. Common in the waste lands. 144635, 151134.

RUTACEAE

Aegle marmelos (L.) Corr. Trans. Linn. Soc. London 5: 223. 1800. '*Bel*'. Tree, frequent in the open forests. Fruits are used in the treatment of diarrhoea. 151150.

RHAMNACEAE

Ventilago denticulata Willd. Ges. Naturf. Fr. Neue Schr. 3: 417. 1801. A large woody climber, frequent in dense forests. 145142, 151092.

Zizyphus mauritiana Lamk. Encycl. 3: 319. 1789. '*Ber*'. A large shrub, frequent in open forests. Fruits are edible. Leaves are used as fodder. 151171.

Z. oenopia Mill. Gard. Dict. ed. 8, n. 3, 1768. '*Yeruni, Ironi*'. A large straggling shrub, frequent in open forests. Fruits are edible and the bark is used as a tan. 151170.

VITACEAE

Ampelocissus tomentosa (Roth.) Planch. J. Vigne. Am. 374. 1883. A woody climber, frequent in dense forests. 151144, 151158.

LEEACEAE

Leea edgeworthii Sant. in Rec. Bot. Surv. Ind. 16(1): 54. 1953. Undershrub, frequent in open and dense forests. Fruits are edible. 144789.

ANACARDIACEAE

Buchanania lanzan Spreng. J. Bot. (Schrader) 2: 234. 1800. '*Charoli*'. Tree, frequent in the dense forests. Fruits and seeds are edible.

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Seeds purify the blood and is considered a brain tonic. 145068.

Semecarpus anacardium L. f. Suppl. 182. 1781. 'Biba'. Tree, frequent in the dense forests. Seed oil is used as a protection against white ants. 144610.

FABACEAE

Abrus precatorius L. Syst. Nat. ed. 12, 472. 1767. 'Ganja'. Perennial climber, frequent in dense forests. Leaves along with warm mustard oil is used to relieve pain due to swelling etc. 144632, 145100.

Aiysicarpus bupleurifolius (L.) DC. Prodr. 2: 353. 1825. A slender perennial herb, frequent in the forests. 144649, 144701.

A. vaginalis (L.) DC. Prodr. 2: 353. 1825. A suberect much branched herb, common along the edges of forests. Roots are used to check cough. 151070.

Butea monosperma (Lamk.) Taub. in Engl. & Prantl, Pflanzenfam 3(3): 366. 1894. 'Palas'. Tree, occurring frequently in the open forests. Flowers are applied as poultice to heal swellings etc. 145088.

Canavalia ensiformis DC. Prodr. 2: 404. 1825. 'Cavara'. Climbing herb, frequent along the open forests. Pods are used as vegetable. 145099, 151088.

Crotalaria hirta Willd., Ges. Naturf. Freude Berlin Neue Schriften 4: 217. 1803. Herb, frequent in the open forests. 151191.

C. linifolia L. f. Suppl. 322. 1718. Suffruticose herb, frequent in the forests. 144678.

Desmodium heterocarpon (L.) DC. Prodr. 2: 337. 1825. Herb, frequent in the scrub forests. 144625, 144643.

D. triflorum (L.) DC. Prodr. 2: 334. 1825. Herb, frequent in the open grasslands. Plant is used as a fodder. 144645, 145105.

Flemingia strobilifera (L.) Aiton, Hort. Kew ed. 2, 4: 350. 1812. Undershrub, frequent

in the scrub forests. 144675, 145073, 145163.

Indigofera cassioides Rottl. ex DC. Prodr. 2: 225. 1825. Herb, frequent in the open grasslands. 145063, 151145.

Pseudarthria viscida (L.) Wt. & Arn. Prodr. 209. 1834. Herb, frequent in the scrub forests. Plant is used to check piles. 144621, 144662.

Rhynchosia minima (L.) DC. Prodr. 2: 385. 1825. Herb, frequent in the open grasslands. Leaves are used as a stimulant. 151066.

Teramnus labialis (L.) Spreng. Syst. 3: 235. 1926. Twining herb, common in the scrub and dense forests. Plant is used as a fodder. 144606, 151101, 151149.

Uria lagopodioides (L.) Desv. ex DC. Prodr. 2: 324. 1825. Herb, rare along the edges of forests. 144647, 151136.

U. picta (Jacq.) Desv. ex DC. Journ. Bot. 1: 123. 1813. Herb, frequent in the dense and scrub forests. Fruits are used as an anti-septic. 144648.

CAESALPINIACEAE

Bauhinia purpurea L. Sp. Pl. 375. 1753. 'Kanchana'. Tree, frequent along habitations. Leaves are used as fodder. 151102.

B. racemosa Lamk., Encycl. 1: 390. 1785. Tree, frequent in the dense forests. Fruits are edible. 144612.

Cassia absus L. Sp. Pl. 376. 1753. Herb, frequent along the open grass lands. Leaves are used against skin diseases. 144628.

C. fistula L. Sp. Pl. 377. 1753. 'Bahava'. Tree, frequent in the dense and scrub forests. Wood is used as a timber. 144682, 140581, 151147.

Piliostigma malabaricum (Roxb.) Benth. Miq. Pl. Jungh. 261. 1852. Tree, frequent in dense forests. Bark is used for making ropes. 144633, 145065, 145138.

MIMOSACEAE

- Acacia chundra** (Rottl.) Willd. Sp. Pl. 4: 1078. 1806. 'Khair'. Tree, frequent in dense and scrub forests. Wood is used as timber. 144611.
- A. nilotica** (L.) Del. subsp. **indica** (Benth.) Brenan, Kew Bull. 12: 84. 1957. 'Babhul'. Tree, frequent along the edges of forest roads. Decoction of the leaves is used for sore throat. 145103.
- A. pennata** (L.) Willd. Sp. Pl. 4: 1090. 1806. Scandent shrub, frequent in dense forests. Leaves are used to check bleeding. 151139.
- Pithecellobium dulce** (Roxb.) Benth. London J. Bombay nat. Hist. Soc. 3: 199. 1844. Tree, frequent along the scrub forests. Seeds are edible. 145058.

COMBRETACEAE

- Anogeissus latifolia** (DC.) Wall. ex Bedd. Fl. Sylv. t. 15. 1869. 'Dhavada'. Tree, frequent in dense forests. Leaves are used for tanning. Wood is used for making tools etc. 144673, 145134, 151127.
- Terminalia tomentosa** Wt. & Arn. Prodr. 314. 1834. Tree, frequent in dense forests. Fruits are used for dyeing and tanning. 144688, 151128.

LYTHRACEAE

- Ammannia baccifera** L. Sp. Pl. (ed. 2) 175. 1762. 'Bharayambhul'. Herb, common along moist habitats. Plant is used to check rheumatic pains. 144704, 145093.
- A. multiflora** Roxb. Fl. Ind. 1: 447. 1820. Herb, common in moist habitats. 144651.
- Lagerstroemia parviflora** Roxb. Pl. Cor. 1: 47, t. 66. 1795. 'Lendia'. Tree, frequent along dense forests. The wood is used for furniture etc. 144680, 151153.

- Woodfordia fruticosa** (L.) Kurz. in JASB. 40: 56. 1871. Shrub, frequent in dense and scrub forests. Bark and leaves are used for tanning. 151145.

ONAGRACEAE

- Ludwigia octovalis** (Jacq.) Raven subsp. **sessiliflora** (Mich.) Raven Kew Bull. 15: 476, 1962. Herb, frequent on swampy soils. 145052.

CUCURBITACEAE

- Luffa acutangula** (L.) Roxb. var. **amara** (Roxb.) C.B.Cl. in Fl. Brit. India 2: 615. 1879. 'Kadudodka'. An extensive climber. Fruits are used as vegetable. 144605.

RUBIACEAE

- Gardenia latifolia** Ait. Hort. Kew 1: 294. 1789. Tree, frequent in the dense and scrub forests. Wood is used for making toys. 145130, 151164.
- Knoxia sumatrensis** (Retz.) DC. Prodr. 4: 569. 1830. Herb, frequent in moist habitats. 144690.
- Mitragyna parvifolia** (Roxb.) Korth, Obs. Naocl. Ind. 19, 1839. 'Kadam'. Tree, frequent in dense forests. Wood is used for agricultural implements. 144670, 145107.
- Xeromphis uliginosa** (Thunb.) Keay, Bull. Jard. Bot. Etal 28: 37. 1958. 'Karingud'. Tree, frequent in scrub forests. Bark is used in diarrhoea. 144634.

ASTERACEAE

- Blumea belangeriana** DC. Prodr. 5: 444. 1836. Herb, frequent in moist habitats. 155146.
- Eclipta prostrata** (L.) Linn. Mant. Alt. 286. 1771. 'Bhangra'. A common weed with white flowers. 145161.

Elephantopus scaber L. Sp. Pl. 814. 1753.
Herb, frequent in dense forests. 144638,
145147.

Emilia sonchifolia (L.) DC. ex Wight, Contrib.
Bot. Ind. 24, 1834. Herb, common along
the moist habitats. Decoction of roots is
used in bowel complaints. 145120, 151079.

Grangea maderaspatana (L.) Poir. in Lam.,
Encycl. Suppl. 2: 825. 1811. Herb, frequent
along the moist habitats. Leaves are used to
check stomach ache. 155141.

Sphaeranthus indicus L. Sp. Pl. 1314. 1753.
'*Gorakhamundi*'. Herb, common winter
weed in the fields after harvesting. Decoc-
tion of the plant is used to check cough.
145083.

Tridax procumbens L. Sp. Pl. 900. 1753.
'*Ekdandi*'. Herb, common along the rocky
habitats. Juice of the leaves is used for
wounds etc. 145106, 151113.

Vernonia cinerea (L.) Less. Linnaea 4: 291.
1829. '*Osari*'. Herb, common weed of the
wastelands. 145071.

Vicoa indica (Willd.) DC. in Wight, Contrib.
10, 1834. Herb, flowers yellow. Common
in moist habitats. 145062, 151082, 151111.

LOBELIACEAE

Lobelia alsinoides Lamk. Encycl. 3: 588.
1792. Herb, frequent in moist rocky habitats.
145154.

PLUMBAGINACEAE

Plumbago zeylanica L. Sp. Pl. 151. 1753.
'*Chitramula*'. Herb, frequent in the waste-
lands. Paste of the root with salt and water
is applied for skin diseases. 145084.

EBENACEAE

Diospyros melanoxylon Roxb. Cor. Pl. 1: 236.
t. 46. 1795. '*Tendu*'. Tree, frequent in the
forests. Leaves are used for wrapping
'*biddis*'. 151169.

OLEACEAE

Nyctanthes arbor-tristis L. Sp. Pl. 6. 1753.
'*Parijat*'. Tree, frequent in dense forests.
Flowers are used for making an orange
coloured dye. 151151.

APOCYNACEAE

Holarrhena antidysenterica (Roxb.) A. DC. in
DC.; Prodr. 8: 413. 1844. '*Kuda*'. Shrub,
common in the dense forests. Leaves are
used as a tonic. 149564.

Ichnocarpus frutescens (L.) R. Br. In Aiton,
Hort. Kew ed. 2, 2: 69. 1811. '*Kantabharv*'.
Climbing shrub, frequent along dense forests.
Stems are used for making ropes. 144436.

ASCLEPIADACEAE

Calotropis gigantea (L.) R. Br. in Aiton, Hort.
Kew ed. 2, 2: 78. 1811. '*Madar*'. Shrub or
undershrub, frequent in wastelands. Floss,
obtained from the seeds is used as a stuf-
fing. 145096.

Hemidesmus indicus (L.) R. Br. in Aiton,
Hort. Kew ed. 2, 2: 75. 1811. Twining
shrub, frequent in dense forests. Roots are
used as demulcent. 144669.

Pergularia daemia (Forsk.) Chiov. Result. Sc.
Miss. Sefan Paoli Soman. Ital. 1: 115. 1916.
'*Utarni*'. Twining shrub, frequent in scrub
forests. Juice of the leaves is applied in
rheumatism. 151091.

GENTIANACEAE

Canscora diffusa (Vahl) R. Br.; Prodr. 451.
in obs. 1810. Herb, frequent in moist habi-
tats. Plant is used as a laxative. 151077,
151120.

Exacum pumilum Griesb. in DC. Prodr. 9:
46. 1845. Herb, frequent in moist habitats.
144616.

BORAGINACEAE

- Coldenia procumbens** L. Sp. Pl. 125. 1753.
A frequent weed occurring in moist habitats. Fresh leaves are used against rheumatic swellings. 145165.
- Heliotropium ovalifolium** Forsk. Fl. Aegypt.—Arab. 38: 1775. Frequent weed along the edges of forests. 145157.
- Trichodesma zeylanicum** (N. Burman) R. Br. Prodr. 496. 1810. Frequent weed along the edges of forests. Paste of the leaves is applied to swellings. 151285.

CONVOLVULACEAE

- Ipomoea aquatica** Forsk. Fl. Aegypt.—Arab. 44. 1775. 'Nalichibhaji'. Ground trailing or floating herb. Leaves are eaten as vegetable. 151058, 151297.
- Jacquemontia paniculata** (Burm. f.) Hall. f. Bot. Jahrb. 16: 541. 1893. A slender twining herb. 145092.
- Merremia emarginata** (Burm. f.) Hall. f. Bot. Jahrb. 16: 552. 1893. A prostrate creeping herb, frequent in moist habitats. 144645, 145187.

SOLANACEAE

- Datura innoxia** Mill. Gard. Dict. n. 5. 1768. Herb, frequent in wastelands. Leaves are used to cure asthma. 151093.
- Solanum surrattense** Burm. f. Fl. Ind. 57, 1768. (excl. syn. Fl. Brit. India 4: 236. Pluk. et Raj.). A prickly diffuse, herb, common in wastelands. Leaves are used for rheumatism. 145032.

SCROPHULARIACEAE

- Buchnera hispida** Buch.-Ham. ex D. Don. Prodr. Fl. Nepal 91. 1825. Herb, frequent in moist habitats. 151154.

- Dopatrium junceum** (Roxb.) Buch.-Ham. ex Benth. Scroph. Ind. 31. 1835. Herb, frequent in moist habitats. 144697.
- Limnophila indica** (L.) Druce, Bot. Exach. Club Soc. Brit. Isles 3: 420. 1914. Herb, common in moist habitats. Herb considered to be an antiseptic. 144705.
- Lindernia parviflora** (Roxb.) Haines, Bot. Bihar & Orissa 635 (665). 1922. Herb, frequent in moist habitats. 151076.
- Scoparia dulcis** L. Sp. Pl. 116, 1753. Frequent weed in wastelands. 144671.

LENTIBULARIACEAE

- Utricularia stellaris** L. f. Suppl. 86. 1781. Herb, flowers yellow. Common in stagnant waters. 144703.

BIGNONIACEAE

- Millingtonia hortensis** L. f. Suppl. 291. 1781. An avenue tree. 151168.
- Stereospermum suaveolens** (Roxb.) DC. Prodr. 9: 211. 1845. 'Padal'. Tree, frequent along the dense forests. Wood is used as timber. 151156.

ACANTHACEAE

- Andrographis paniculata** (Burm.) Wall. ex Nees in Wall. Pl. As. Rar. 3: 116. 1832. 'Dev Kirayath'. Herb, frequent in moist habitats. Green leaves are used as tonic. 144631, 151100, 151167.
- Blepharis maderaspatensis** (L.) Heyne ex Roth, Nov. Pl. Sp. 320. 1821. Herb, frequent in scrub forests. 145075.
- Dipteracanthus prostratus** (Poir) Nees in Wall., Pl. As. Rar. 3: 81. 1832. Herb, frequent in moist habitats. Leaves are considered useful as a remedy for ear disease. 144657.
- Hemigraphis latebrosa** (Roth) Nees in DC. Prodr. 11: 723. 1847. Herb, frequent in

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dense forests. 145080, 145144, 151097, 151122.

Hygrophila auriculata (Sch.) Heine. in Kew Bull. 16: 172, 1962. A stout herb, frequent in wet places. 145091.

Justicia betonica L. Sp. Pl. 15, 1753; Clarke in Hook. f. Fl. Brit. India 4: 525. 1885. A diffusely branched undershrub. 144622.

Peristrophe bicalyculata (Retz.) Nees in Wall. Pl. As. Rar. 3: 113. 1832. Herb, frequent in dense forests. Plant is used as an antidote for insect bite. 145086, 151089.

Rungia pectinata (L.) Nees in DC., Prodr. 11: 469. 1847. Herb, common in the forests. 145067, 151098.

R. repens (L.) Nees in Wall. Pl. As. Rar. 3: 110. 1832. '*Ghati piltapapda*'. Herb, common in the forests. Plant is used to cure cough etc. 145121.

VERBENACEAE

Clerodendrum serratum (L.) Moon, Cat. 46. No. 382. 1824; Spreng. Syst. 2: 758. 1825. '*Bharang*'. Shrub, frequent along the edges of forests. Leaves are used as vegetable. 144629.

Lantana camara L. var. *aculeata* (L.) Maldenke in Torreya 34: 9. 1934. Shrub, frequent in wastelands. Decoction of the plant is used in rheumatism. 151080.

Tectona grandis L. f. Suppl. 151, 1781. '*Sagwak*'. Tree, common in the forests. The wood is a good timber and is used for construction and is useful for making furniture etc. 145089.

LAMIACEAE

Leonotis nepetifolia (L.) R. Br. Prodr. 504. 1810. Herb, frequent in the scrub forest and wastelands. Decoction of the leaves is used as tonic. 145085, 151086.

Leucas biflora R. Br. Prodr. 504. 1810. Herb. Flowers white. Frequent in the forests. 144664.

Pogostemon plectranthoides Desf., Ann. Mus-Natl. Hist. Nat. 2: 156. t. 6, 1808. Undershrub, frequent along the edges of forests. The plant is used as an insecticide. 145072, 151157.

AMARANTHACEAE

Achyranthes aspera L. Sp. Pl. 204, 1753. '*Aghada*'. Herb, frequent in scrub forests and wastelands. The plant ash is used externally for ulcers. Leaves are also used as pot herb. 151151.

A. bidentata Blume, Bijdr. 545. 1826. Herb, frequent in scrub forests and wastelands. 144630.

Alternanthera sessilis (L.) DC. Cat. Hort. Monsp. 77. 1813. Frequent weed in moist places. Plant is used in rheumatism. 144685.

Amaranthus spinosus L. Sp. Pl. 991, 1753. '*Kante Math*'. Common weed of wastelands. Plant is used as vegetable and also as fodder. 145097.

A. viridis L. Sp. Pl. ed. 2, 1405. 1763. Herb, common in moist places. Plant is used as fodder. 144604.

POLYGONACEAE

Polygonum barbatum L. var. *gracile* (Dans.) Steward, East As. In Contrib. Grey Herb. 88: 55. 1930. Herb, frequent in moist places. 144922.

P. glabrum Willd. Sp. Pl. 2: 447, 1799. Herb, frequent in moist places. 151115.

P. plebeium R. Br. Prodr. 420. 1810. Herb, common weed of wastelands. 141558.

EUPHORBIACEAE

Bridelia retusa (L.) Spreng. Syst. veg. 3: 48. 1826. '*Kassie*'. Fruits are edible. Leaves are used as fodder. 151129.

Cleistanthus collinus Benth. in Gen. Pl. III. 268. 1880. 'Garari'. Tree, frequent in the dense forests. Bark, leaves and fruits are used for tanning. 144708.

Chrozophora rottleri (Geis) Juss. ex Spreng. Syst. 3: 850. 1826. Densely hispid herb frequent in wastelands. 145138.

Emblica officinalis Gaertn. Fruct. 2: 122. 1791. 'Avala'. Tree, frequent in the dense forests. Fruits are edible. Unripe fruits act as a laxative. 151135.

Euphorbia hirta L. Sp. Pl. 454. 1753. Common weed of wastelands. Decoction of the plant is used in asthma. 151114.

E. parviflora L. Syst. (ed. 10) 2: 1047. 1759. Frequent weed of wastelands. 145172.

E. prostrata Ait. Hort. Kew 2: 139. 1789. Frequent weed of wastelands. 145116.

Kirganelia reticulata (Poir.) Baill. Etud. Gen. Euph. 614. 1874. Undershrub, frequent in scrub forests. Roots are used for making red dye. 145101.

Mallotus philippensis (Lamk.) Muell. Arg. in Linnaea 34: 196. 1865. 'Raini'. Tree, frequent in dense forests. The powdered fruit is used as a purgative. 145150.

Phyllanthus urinaria L. Sp. Pl. 982. 1753. Herb, frequent along the edges of forests. 144617.

Ricinus communis L. Sp. Pl. 1007. 1753. Shrub, frequent along the edges of forests. The seed cake is used as fertilizer. 145095.

MORACEAE

Ficus hispida L. f. Suppl. 442. 1781. Tree, frequent in the scrub forests. Fruits are edible. 145055.

ORCHIDACEAE

Habenaria plantaginea Lindl. Gen. & Sp. Orch. 323, 1835. Herb, frequent in the forests. 144623, 144627.

Vanda tessallata (Roxb.) Hook. ex G. Don in Loud., Hort. Brit. 372. 1830. Epiphytic herb, frequent. Roots are used in rheumatism. 145137.

ZINGIBERACEAE

Curcuma pseudomontana Grah. Cat. Pl. Bomb. 210. 1839. Herb, frequent on moist habitats. 144672.

Zingiber macrostachyum Dalzell, J. Hook. Bot. Kew Gard. Misc. 4: 342. 1852. Herb, frequent in moist habitats. 144699.

DIOSCOREACEAE

Dioscorea bulbifera L. Sp. Pl. 1033, 1753. Climber, frequent in scrub and dense forests. Roots are used as vegetable. 144646, 151067.

D. pentaphylla L. Sp. Pl. 1032, 1753. Climber, frequent in the dense and scrub forests. Roots are edible. 144640, 144700.

LILIACEAE

Iphigenia indica (L.) A. Gray in Kunth, Enum. 4: 213. 1843. Herb, frequent in the dense forests. 144624.

SMILACACEAE

Smilax zeylanica L. Sp. Pl. 1029. 1753. 'Jangli Ael'. Scandent. Young branches and leaves are used as vegetable. 144654, 151160.

COMMELINACEAE

Amischophacelus axillaris (L.) Rolla Rao et Kammathy, J. Linn. Soc. Bot. 59: 306. 1966. Herb, frequent in the moist habitats. 144702.

Commelina benghalensis L. Sp. Pl. 41. 1753. Herb, frequent in moist habitats. Plant is used as a laxative. 144740.

Cyanotis cristata (L.) D. Don, Prodr. Fl. Nep. 46. 1825. Herb, frequent in moist habitats. 144636.

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ERIOCAULACEAE

Eriocaulon dianae Fyson. J. Indian Bot. 2: 259, t. 11. 1921. Herb, frequent in moist grasslands. 144652.

CYPERACEAE

Cyperus flavidus Retz. Obs. Fasc. 5: 13. 1789. Herb, frequent in moist habitats. 145061.

C. iria L. Sp. Pl. 45. 1753. Herb, frequent in moist habitats. The culms are used for making mats. 144618.

C. tenuispica Steud. Syn. Pl. Glum. 2: 11. 1855. Herb, frequent in moist habitats. 145179.

Fimbristylis bis-umbellata (Forsk.) Bub. Dec. 30, 1850. Herb, frequent in moist habitats. 144650.

F. dichotoma (L.) Vahl, Enum. Pl. 2: 287. 1805. Herb, frequent in moist habitats. 144644, 144676.

F. miliacea (L.) Vahl, Enum. Pl. 2: 287. 1805. Herb, frequent in moist habitats. 151060.

F. schoenoides (Retz.) Vahl, Enum. Pl. 2: 286. 1805. Herb, frequent in moist habitats. 144693.

Kyllinga triceps Rottb. Descr. & Icon. 14, t. 4, f. 6 (excl. cit. Rheed.), 1773. Herb, frequent in moist habitats. 144681.

POACEAE

Aristida adscensionis L. Sp. Pl. 82. 1753. Herb, frequent in moist habitats. Plant is used as an antiseptic. 145145.

Dactyloctenium aegyptium (L.) P. Beauv. Ess. Agrost. 15: 1812. Herb, common in open grasslands. Plant is used as fodder. 145000.

Dichanthium annulatum (Forsk.) Stapf in Prain, Fl. Trop. Africa 9: 178. 1917. Herb, common in open grasslands. Plant is used as fodder. 145164.

Echinochloa colonum (L.) Link. Hort. Berol. 2: 209. 1833. Herb, frequent in moist habitats. Seeds are eaten. Plant is also used as fodder. 144686, 144698.

Elytrophorus spicatus (Willd.) A. Camus in Lecomte, Fl. Gen. Indo-Chine 7: 547. 1923. Herb, frequent in moist habitats. 155184.

Eragrostis gangetica (Roxb.) Steud. Syn. Pl. Glum. 1: 266. 1854. Herb, frequent in moist habitats. 145060.

E. poaeoides P. Beauv. Agrost. 162. 1812. Herb, frequent in moist habitats. 145061.

E. tenella (L.) P. Beauv. ex Roem. et Schult. Syst. veg. 2: 576. 1817. Herb, frequent in open grasslands. 145009.

E. unioloides (Retz.) Nees ex Steud. Syn. Pl. Glum.: 264. 1854. Herb, common in open grasslands. 144358.

Hackelochloa granularis (L.) O. Ktze. Rev. Gen. Pl. 976. 1891. Herb, frequent in moist habitats. 145087.

Heteropogon contortus (L.) P. Beauv. ex Roem. & Schultes Syst. Veg. 2: 836. 1817. Herb, common in open grasslands. 145069.

Iseilema laxum Hack. in DC. Mon. Phan. 6: 682. 1889. Herb, frequent in moist habitats. Plant is used as fodder. 145139.

Panicum notatum Retz. Obs. Bot. 4: 18. 1786. Herb, frequent in moist habitats. 145079.

Paspalum scrobiculatum L. Mant. 29. 1767. Herb, frequent in moist habitats. Plant is used as an insecticide. 145016.

Pseudanthistiria heteroclita (Roxb.) Hook. f. Fl. Brit. India 7: 219. 1897. Herb, frequent in moist habitats. Plant is used for thatching. 144684.

Themeda quadrivalvis (L.) O. Kuntz Rev. Gen. Pl. 2: 794. 1891. Tall grass, frequent

in moist habitats. Grass is eaten by deer.
145087.

Vetiveria zizanioides (L.) Nash in Small. Fl. Southeast U.S. 67. 1903. '*Vala*'. Tall grass, frequent in the open grasslands. Plant is used for making curtains etc. 145039.

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